tenth* patient has a chronic suppurative otitis media. At this rate, San Francisco, with a population of 500,000, has 5,000 cases of chronic suppurative otitis media. Of this number, probably 1,000 are under treatment. I am confident that quite a percentage of these untreated, and possibly treated, patients are dying from cerebral complications, such as extradural abscess, brain abscess, meningitis, perisinous abscess and sinous thrombosis, which are very hard at times for the general practitioner to recognize, because he has usually considered these chronic discharges as more or less insignificant.

Statistics in relation to intercranial complications.—Pitt, in performing 9,000 autopsies, found that death was due to chronic suppuration of the middle ear in 57; Barker, in 8,028 autopsies, 45 cases; Gruber, in 40,073 autopsies in the Vienna General Hospital, 232 cases. This makes a total of 57,101 autopsies, and 334 deaths from chronic suppuration, which is approximately one death in 170 cases. Estimating San Francisco, with a population of 500,000, at a death rate of 14 per thousand, we find that we have 7,000 deaths, which would show that we have 41 persons dying from cerebral complications each year due to chronic suppuration of the middle ear. Politzer says, in relation to these statistics, that the number must be much greater if we bear in mind that only a small percentage of the chronic middle ear suppurations are taken to a hospital; and he says that these figures should be doubled. This would indicate that the profession at large has not altogether recognized the importance of chronic suppuration of the middle ear.

There is not a field in surgery that demands more careful consideration. If you operate as I advise, you will practically eliminate all the cerebral complications and others too numerous to mention. In operating for cerebral complications, you have a mortality of something like 50%. This will be reduced to a minimum. The patients do not all recover from the discharge following the radical operation; but I can truthfully say that the danger of dying from cerebral complications is practically nil. I arrive at these conclusions from studying from 600 to 700 operations which I have either seen, assisted in or performed myself. The mortality following this operation, after the cerebral complications have been eliminated, is less than one-half of one per cent, and this is due to lack of proper aseptic dressing. Macewen's tables show that 80% or 90% of the cases of chronic brain surgery are due to chronic suppuration of the middle ear.

12. a, b and c, when associated with some other symptoms.

(a) Remittent or continuous fever, associated with great rise of temperature after a chill or a rigor; the characteristic septic fever with rapid variations of temperature.

(b) Vomiting, when associated with some other cerebral symptoms.

(c) The condition of the fundus oculi, as dilatation of blood vessels, retinitis optica, papilitis and choked disc, found in 50% of the otitic complications.

Subjective Symptoms.—These are never taken alone, but must be associated with other subjective or objective symptoms.

1. Continuous or recurring pain in the ear or mastoid process.

2. Persistent headache on the corresponding side. Temporary or continuous attacks of dizziness.

3. The first signs of cerebral complication, such as severe headache, nausea and vomiting.

I have neglected to speak of the nose and the naso-pharynx in relation to chronic suppuration of the middle ear. Briefly, the nose and the naso-pharynx must be put in an absolutely healthy condition before any form of treatment for chronic suppuration of the middle ear is begun.

Statistics in relation to the function of hearing following the radical operation.—Dozent Hammerschlag of the Politzer clinic collected all the reports of operations from 1895 to 1897, showing by these that in the majority there was no essential difference in the hearing. A small percentage showed an improvement. About the same number did not hear as well. Wagner's report, 1893, is about the same as Hammerschlag's. Stacke reports 100 cases; hearing improved 31 times; made worse 6 times, and in about half it remained unaltered. Grünert improved the hearing in 55%, changed for the worse in 6%, unchanged 39%. This increase or diminution in hearing after the operation is dependent on the amount of cicatricial tissue that binds the stapes. Körner says that when the labyrinth is not affected the hearing will always be improved.

Statistics in relation to complete recovery.—Complete recovery depends to a great extent on the parts involved, to the extent of the disease, and to the development of intercranial complications. The prognosis is more favorable in cases of caries of the attic or antrum and mastoid process; fistulous openings of the posterior wall; membranous strictures of the external meatus, etc. The prognosis is not so favorable in cholesteatoma; extensive caries of the labyrinth; tuberculosis of the temporal bone; intercranial complications. Duration of treatment varies from 3 to 9 months.

Stacke reports 100 cases; 94 cured, 3 died from cerebral complications, 2 remained away, 1 dismissed not cured. Grünert reports 200; 99 healed, 37 dry but requiring periodical attention, 34 not healed, 10 died from cerebral complications, 1 from meningitis during the after-treatment, 19 not reported. Trautmann cured 70%, Schwartze 74%, Politzer 85%. Professor Grünert has just published the statistics for his last year's operative work. He had 93 patients operated upon; 53 cured, 7 deaths due to cranial complications, 4 temporarily benefited, 4 not benefited, 1 disappeared, and 22 remaining under treatment. The reason so many remain under treatment is that the year's work ended April 1, 1904. The publication was made in July. When sufficient time elapses, I believe this will show the best results published regarding complete recovery. One of the deaths was due to carcinoma. The average duration of the cures was 4½ months.

*By investigation of some 30,000 cases of diseases of the ear, I find it to be one in every sixth patient suffering from an ear affection.

CLINICAL FINDINGS USUALLY OVERLOOKED IN MUCOMEMBRANOUS ENTEROCOLITIS.*

By JNO. J. GAYNOR, M. D., Eureka.

ONE of the commonest diseases seen in sanatorium practice is mucomembranous enterocolitis. Since this affection is three times more frequent in women than in men, I will describe the patient and the disease as I have seen them in women. While the bodily habit of the patient may be the obese-anemic, the lank type is the class in which mucomembranous enterocolitis is oftenest found. The expression of the face is a cross between the peritoneal and the uterine, while the color is midway between cancer and tuberculosis. If given to making a snap diagnosis, the disease might be guessed from the general make-up of the patient. It is equally true that a physician on the lookout for these cases may be the first to make the diagnosis, though the patient may have been through a dozen hands and had an abdominal section for some supposed tube-ovarian difficulty. In fact the woman who, with a sub-developed mucomembranous enterocolitis, escapes an abdominal section for supposed utero-ovarian diseases may consider herself a lucky individual. The surgery that is helpful in these cases is an operation for piles and an abdominal section for ptosis of the abdominal organs, especially a section above the umbilicus through which the stomach is replaced and tacked to the abdominal wall, bringing the transverse colon up into place with it.

*Read before the Humboldt County Medical Society.

A patient suspected of having mucomembranous enterocolitis, being put on the examining table, the neglected clinical findings are about as follows: The patient is needled for anesthetic and hyperesthetic areas over the brows, face, breasts, hepatic and splenic flexures of the colon, as well as over the cecum and sigmoid, or, more exactly, over a palm's space a little below the middle of lines drawn from the umbilicus to the anterior-superior spines of the ilia. The conjunctival and pharyngeal reflexes are examined and found wanting. In a word, the stigmata of hysteria are looked for and usually found to be very well marked. Hysterical hip-joint, knee-joint and other evidences of neuro-arthritism are not forgotten; for coprostasis and the neuro-arthritic diathesis always underlie mucomembranous enterocolitis.

In examining the pharynx, the gums and mucous membranes of the mouth are taken note of and the findings are almost pathognomonic. Should the patient be seen during an acute exacerbation of the disease a moderate gin-givitis will be found with a more or less marked aphthous condition of the mucous membranes to which may be added, in occasional cases, an irritated, semi-ulcerated condition of the edges of the tongue, well towards its base, that may have existed for years. An attack of ptyalism exists with these findings and if you test with blue litmus the saliva will often be found acid in reaction. In fact you have an acid patient with an acetic acid odor, acid perspiration, acid saliva, over-acid stomach and acid stools, but with a persistently alkaline urine, having a sulphite of lime odor, and loaded with indican, phosphates, oxalates, and the aromatic sulphates. If this urine stands for an hour a pellicle of indican, reflecting all the colors of the rainbow, raises and floats on the surface, thus showing the intestinal putrefaction and toxemia of hepatism to be profound. The skin is anemic, cold and clammy, the hands and feet colder and clammier and the weight of the blood in the body is within the abdomen, the patient having been bled into her own abdominal vessels as is the case in resorcin poisoning. The mental malaize and passive cerebral congestion are suggestive of paresis. Sexual impotence is the rule in the male while the attack is on and while the urine remains alkaline. In both sexes the attack begins to clear up with the voidance of an abundance of clear, colorless, hysterical urine a low specific gravity, the quantity being suggestive of small red kidney.

The lungs on being examined are found to be small. While the patient may look to be semi-tuberculous the usual findings are bronchial catarrh and the cog-wheel respiration of hysteria. The patient may tell you of irregular attacks resembling rose-cold, but a much commoner history is that at times she is awakened from her first sleep by a difficulty in breathing, an icy coldness and a feeling of oppression in the chest as if the life was being squeezed out of her by a crushing weight on the lower sternum or upper abdomen. This feeling sometimes originates in a dream of someone sitting on the patient's breast-bone, and is due to an excessive volume of blood from the abdominal vessels to the right heart during dorsal decubitus producing passive dilatation, incomplete emptying and gradual failure of the overloaded right ventricle. Relief is obtained almost immediately by sitting up in bed, by deep breathing, by a movement of the bowels, or the passage of a half-chamberful of clear, colorless hysterical urine. Here the lungs and breathing apparatus were at fault because they did not keep the right ventricle aspirated. At times the attack resembles the Adams-Stokes' syndrome, especially the bradycardia and horizontal vertigo.

The heart, like the liver, the womb, the ovaries, is undersized and the right heart is below the standard either as a force or a suction pump. The result is the same as obtained in "the blues"—an excess of blood in the abdominal organs and brain, on the venous side. Add to this the obstruction offered by a cirrhotic liver and the patient in such cases complains of attacks of heart-fright occurring at various times, night or day, but coming oftenest during the first sleep and waking the patient from it with a feeling of impending dissolution. In these attacks, differing from those already described, there is nausea, the skin is leaky and inundated with cold sweat, the heart is very weak, the pulmonic second sound almost wanting and the pulse, often running as high as 160, so feeble that it is hard to count. The patient does not faint or lose consciousness but feels as if the hand of death were upon her. The heart-fright and right heart failure are real, being due, through abdominal stasis, to an insufficient volume of blood from the abdomen to keep the right heart pumping. The abdominal vessels, capable of holding the entire volume of blood in the body, are over-distended, this being especially true of the portal circulation, dammed off as it is from the systemic by a cirrhotic liver and gastro-enteroptosis. Though the method of relief is simple, death has occurred in these attacks. Timely relief may be obtained by suspending the patient by the heels, or by deep two-handed pressure over the semicircle of the lower abdomen, the patient being asked after the deep pressure is made and held, to throw the hands off by contracting the abdominal muscles. This method, by increasing abdominal tension, forces the blood from the abdominal vessels into the right heart and gives it something to pump on. Of drug treatment, I know of no heart tonic or stimulant of any value in the condition described. Any method, mechanical or otherwise, that minimizes the volume of blood dammed up in the portal circulation has a prophylactic value. If the colon is not in a state of corded spasm, keeping the bowels emptied, by a bottle of citrate of magnesia, once or twice a week, comes nearer warding off these attacks than any drug treatment that I know of. If, in addition to this, the gastro-enteroptosis be measurably corrected by persisting in using the abdominal passage already spoken of, and by strapping the abdomen, thus reinforcing the undeveloped abdominal muscles to which the gastro-enteroptosis is largely due, much is being done to keep up the abdominal tension which is so large a factor in minimizing the volume of blood in abdominal vessels. After ptosis of the abdominal organs has been corrected in the Trendelenburg position, straps of surgeons' adhesive plaster should be applied to the lower abdomen and colonic areas.

While the liver may be enlarged, the rule in mucomembranous enterocolitis is that there is a veritable cirrhosis, a contracted liver that does not give more than five centimetres of dulness longitudinally. As a result of this cirrhosis there is always and invariably a functional hepatic insufficiency lying at the core of the disease and standing in the way of rapid or permanent cure. This underlying vitiation of the functions of the liver is as deep as the foundation of the organism itself and is also supposed to contribute to the basis of the so-called uric acid diathesis, about which so much idle and "cock-sure" theorizing has been indulged in for years. Paraded under a score of names, it is here called "hepatism" and is the most resistant factor to the successful treatment of the syndrome described in this paper as tributary to and leading up to mucomembranous entercolitis. The real disease is still unnamed for mucomembranous discharges and coli tisare but symptomatic end-products that may not appear for years and yet the underlying disease be going through the slow evolution of its natural his-

tory. Call it hysteria, neurasthenia, goutiness, lithiasis, uricacidemia, or what you will, we still have the evidences of atrophic cirrhosis in the contracted liver, enlarged spleen, insufficient right ventricle, cirrhotic complexion, clay-colored stools, and especially so in the esophageal, duodenal and rectal hemorrhages due to nature's attempt to establish collateral circulation and furnish an outlet for the dammed-up portal system.

While there are several collateral channels which aid in overcoming portal insufficiency in the venous cirrhosis of mucomembranous enterocolitis, a reference to hemorrhages from but three will be sufficient for my purpose. The commonest form of hemorrhage is from the rectum and the condition found is usually called piles and operated on as such, but is not really hemorrhoidal. These hemorrhages are measurably beneficial and after getting over the scare of blood, the patient usually feels freer and better for them. The next in frequency are duodenal and intestinal hemorrhages and when the stools appear tarry and black the usual diagnosis is duodenal ulcer. For patient and physician, the most startling and serious hemorrhage comes from rupture of the overdistended veins of the esophagus in its lower third, anastomosing as they do with portal circulation. This hemorrhage by the mouth suggests tuberculosis or gastric ulcer, but it comes from neither and unlike the intestinal and hemorrhoidal, is usually too free to be helpful or desirable. The death rate for esophageal hemorrhages in venous cirrhosis is greater than from all other hemorrhagic sources combined, the greater number of fatalities occurring in first attack. On the other hand, these esophageal hemorrhages may be slight and occur off and on for years and finally a voluminous one close the scene. An attempt to give the time limit would be only a guess, but say ten to twenty years, or more.

A commoner and earlier evidence of atrophic cirrhosis of the liver in mucomembranous enterocolitis is the clay-colored stools, seen in this disease in the earlier stages long before the intensity of the colonic trouble has reached the stage at which intestinal lithiasis and membranous discharges are developed. Chronic constipation, coprostasis, if you will, is then the rule, long sections of the colon are in a state of corded spasm, and, if the spasm extend to the rectum as it usually does when an attack of hepatism is on, the stools are ribbon-shaped and clay-colored at the same time. It would seem that, for short periods, at least, the liver suspends secretion during those attacks and, as the disease is a long-lived one, clay-colored stools occur off and on for years. I have never seen a case in women in which the atrophic cirrhosis here described could be traced to alcohol, syphilis, or malaria, and believe that I have seen helpful results obtained from the moderate use of beer; helpful to constipation, heart, liver and kidneys.

Coming to the usually flabby abdomen through which you can palpate the spinal column, the first important things one runs his hands onto and cannot keep them off of, are floating tenth ribs, in themselves atigmata of degeneration. Whenever I find floating tenth ribs I expect to find a floating right kidney, gastroenteroptosis, fecal impaction or sacculation and corded spasm of the colon, hepatic and renal inadequacy, muscular inefficiency of the right heart and a patient who, if it has not occurred already, will soon or late develop mucomembranous discharges from the colon. In a word, I have a candidate for a fully developed mucomembranous enterocolitis.

Having coated the abdomen with vaseline, go over the colon carefully and you will find coprostasis or sacculation with intestinal atony in one section and corded spasm of the colon in others. I have seen cases where the bowels moved every day through a tunnel in the impaction, the patient being satisfied that her bowels were quite regular. These impactions give rise to sacculations in the colon and complete atony of the sacculated section of the gut. A common point of impaction is the cecum and when emptied, the sacculation hanging low in the pelvis, the tyro in abdominal diagnosis, looking for the heroic in surgery, operates for cystic right ovary. If the impacted or sacculated cecum becomes painful, or an internal hernia occurs into either of the retro-ilio-cecal recesses, the pain or tumor often centers about McBurney's point and then the common every-day diagnosis is appendicitis, for which an operation is usually advised. The differential diagnosis is difficult unless one knows the previous history, but hanging by the heels or the Trendelenburg position reduces the internal hernia and generally relieves the pain of pseudo-appendicitis.

There is one marked peculiarity about these fecal impactions and chronic appendiceal troubles in some cases, viz: If the patient works stooped over in a moderately jack-knifed position, usually to the right, shock, prostration, ptyalism, acid perspiration, hyperchlorhydria, appendiceal pain and tenderness, liver tenderness, and general malaise follow either immediately or within a few hours. I call this syndrome mesenteric shock due, I believe, to expression-traction on the mesentery and find it frequently ushered in by migraine and stercoraceous vomiting. While the cecum itself has no mesentery, the ascending colon has one in one-fourth of the cases and the root of the real mesentery (of small intestine) beginning at the left side of the second lumbar vertebra, extends well into the right iliac fossa. The condition called mesenteric shock yields to gastric lavege, suspension by the heels, and emptying the colon. Migraine is so common in these cases and the result from emptying the colon so good that I have grown to regard every case of sickheadache as being due to fecal impaction (or eye-strain) until proved otherwise. I have known case after case of sickheadache that had existed for years, cleared up at once by finding and removing fecal impactions. As long as the colon was kept free from impaction, whether that was for a month or a year, the sickheadache was absent, but just as soon as the coprostasis recurred the sickheadache returned.

Another common point of impaction in mucomembranous enterocolitis is in the transverse colon, this finding being met oftenest in seamstresses, tailors and shoemakers—classes that work in a jack-knifed position. Gastroptosis being the rule, in the disease in question, when the stomach drops out of position the transverse colon drops with it and, becoming U-shaped, fecal impaction occurs in the bend of the U. The extra weight of the impaction drags the transverse colon still lower and it is not uncommon to find the loaded U resting on the fundus of the bladder and causing an otherwise puzzling vesical irritability. Sickheadache is very common with this finding. Another common point of sacculation and impaction is just about the beginning of the sigmoid flexure, on a level with the crest of the left ilium. As a result of this impaction, the sigmoid drops or is pushed deeply into the pelvis and the knuckle of intestine, under such easy reach bimanually, is sometimes mistaken for a cystic left ovary. I believe I have seen one or more patients who have had a left ovary removed because of this finding.

Above or below the sacculation, or impaction, one finds the colon in a state of complete spasm, the gut feeling like a hard tube about the size of a large finger. If the transverse or descending colon have no sacculation or impaction they are usually in this state of corded spasm down to the beginning of the

sigmoid and then it is the sigmoid with its many turns and bends that is sacculated and impacted. Cathartics aggravate the spasm of a corded colon. Sigmoid impactions usually extend clear across the pelvis and the supposed growths are often figured as intraligamentary. In any case, the rectal sphincters are in a state of spasm and a condition of the rectal veins, resembling hemorrhoids, is very common. Attacks of painful rectal spasm occur by times at night suggesting the rectal crises of locomotor ataxia and are relieved at once by a rectal dilator, the index finger, a movement of the bowels or by getting out of bed and moving about.

While examining the abdominal organs one finds the same marked lack of muscular development in the abdominal walls so often met with in cases of sub-developed exophthalmic goitre. There is usually a separation of the recti while the flat muscles of the abdomen are very thin and in some cases almost wholly wanting. The natural result is a splanchnoptosis—a falling of all the organs in the abdominal cavity. It is in women with this type of abdominal wall, so common in exophthalmic goitre, that we meet labors with tedious, trying second stages, there being practically no abdominal muscles to supply the necessary two-thirds of the power demanded for expulsion of the fetus. It is the same type of woman, when thin as a knife, that gets joyously fat during pregnancy, digestion and assimilation being improved and abdominal tension kept up by the growing uterus pushing the abdominal organs into place and keeping them there for four or five months or more. Within a few months after labor, the support being gone and abdominal tension wanting, these women slip back again into the lank class. The splanchnoptosis, sickheadaches, fecal impactions, hyperchlorhydria, chronic appendicitis, hemorrhoids, hepatic and renal insufficiencies, uricacidemia, the blues, mucomembranous stools and intestinal lithiasis return and the patient becomes more discouraged and hysterical than ever. At this stage she becomes a "Christian scientist," because medical science and medical treatment have failed to make good in her case. I am always tolerant of medical and therapeutic fads, of "Christian scientists," osteopaths, and all such classes because the reason for their existence is based on the failure of the medical profession to furnish the public with the cures asked for. If our profession made good there would be no room for fads or fakes.

This paper up to the present would suggest a dozen different diagnoses and, to put it mildly, that number is small compared with the number made if the patient sees physicians enough; but the disease described here, whether membranes have or have not appeared in the stools, is the same disease that is finally called mucomembranous enterocolitis. It is a constitutional disease, belonging to the degenerations, and the mucomembranous discharges which finally give it a name are but end-products in the fully developed affection. The disease may exist for years before the grade of severity and nervous exhaustion is reached in which intestinal lithiasis, mucus diarrhea and membranous discharges appear. The stress and strain of life have much to do with hurrying the evolution of the symptoms and if this stress and strain be removed in the fully developed disease the membranous discharges disappear, the original diagnosis is forgotten, and the next physician tacks a new label on the case.

The disease is not hereditary but the patient is. She has to pack the type of nervous system and metabolic organs from which sprung the hysterias, neurasthenias, epilepsies, insanities, gouty arthritism, uric acidemias, and gastroenteroptosis of her forbears, and especially so the inadequate liver, renal insufficiency, and feeble musculature of the abdominal wall which are such marked factors in causing and continuing the depressing intestinal toxemias of mucomembranous enterocolitis.

Gentlemen, I had figured on giving a rather full clinical picture of mucomembranous enterocolitis, but have succeeded so far in giving only the leading findings that are usually overlooked, and, even then, not all of these. Having overrun the time limit, I will content myself by saying that the common everyday symptoms, the symptoms by which the disease is usually diagnosed are three, to wit: Coprostasis. intestinal colic, and mucus or mucomembranous stools. Chronic constipation may have existed from childhood; colic in the colon is located above the bladder or in what would be figured the small intestine and this colic is followed by mucomembranous stools. A common sequence is obstipation, colic and mucus diarrhea, the diarrhea and colic being most marked when the constipation is most obstinate. Constipation and diarrhea exist at one and the same time, the diarrhea being due to the coprostasis and to an excess of blood in the abdominal vessels through lack of abdominal tension.

In an acute attack, when the liver fails to secrete bile, the membranous discharges are white and clear as sago. I have seen a night-vase half-filled with these sago-white discharges in twelve hours. Once the liver assumes its functions the mucus and membranous discharges become a dirty yellow. The colic, more or less resistant to codein, may last for hours or days and is best relieved by hot poultices to the abdomen. Once nurse and physician have learned this lesson, the case is easier handled. The rest-cure is of value.

Osteomalacia: Addenda.

I desire to state that now, six weeks subsequent to making the report (page 155, May *Journal*), my patient presents the following symptoms:

Almost constant pain in left femur and back, necessitating the hypodermic administration of ⅜ gr. of morphia once or twice a day, having exhausted all other anodynes. Stomach still rebellious, rejecting fully one-half the nourishment taken.

Abnormal mobility in both femur now quite discernable. The illustration (page 155, May *Journal*) shows the lower third affected, now in both femur, upper third, permitting a considerable rotation of each femur, while the trochanters remain stationary or do not conform to the movements imparted by the shaft of the bone.

The left illiac crest, from the superior spinus process backward, is about double the thickness of that of the right side.

Continued loss of flesh; hope waning, but mind unimpaired.

C. S. STODDARD, M. D.

Cooper College Commencement.

The commencement exercises of Cooper Medical College were held in the college auditorium on Tuesday evening, May 9th. Thirty-seven candidates received the degree. This graduating class entered the college with a membership of ninety-five, but each year the examinations reduced the membership, because the students found unfit were not permitted to obtain advanced standing. Those who were given the degree were, therefore, carefully selected from the number that began their medical studies.

The exercises were held upon what is known in the college as Founder's Day, the birthday of the late Dr. Lane, and attention was called in the addresses of the evening to this fact, and to the life and work of Dr. Lane. Professor Ellinwood made the address to the graduating class on behalf of the faculty. A second address was delivered by Edward R. Taylor, Esq., dean of the Hastings College of Law. He referred to the fact that he had delivered an address to the graduating class of the Medical College of the Pacific thirty-two years ago, and that the present faculty contained but three of the members of the faculty present at that time—Drs. Barkan, Gibbons and Ellinwood.